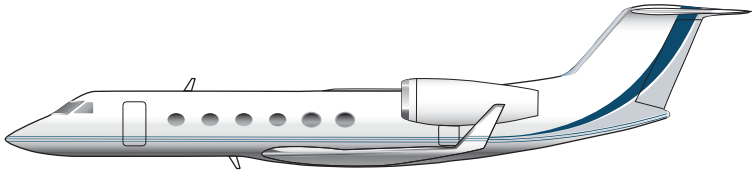
Gulfstream G450



AIRCRAFT SERVICE CHANGE

NUMBER 060

SUBJECT

INDICATING/RECORDING (ATA 31)

XM WEATHER INSTALLATION

JUNE 9, 2010

Gulfstream®
A GENERAL DYNAMICS COMPANY

PILOTS INFORMATION SHEET

XM WEATHER INSTALLATION

This service change installs the XM weather system. There will be no cockpit procedural changes required as a result of this installation.

PLEASE DETACH AND GIVE TO FLIGHT DEPARTMENT PERSONNEL

Aircraft Service Change prepared by Gulfstream Aerospace, Savannah International Airport, PO Box 2206, Savannah Georgia, 31402-2206, USA. © 2010, Gulfstream Aerospace. All rights reserved, including the right to reproduce this publication. No part may be reproduced, stored in any retrieval system or transmitted in any part or form or by any means electronic, photocopying, microfilm, microfiche, mechanical or otherwise, without prior written permission of Gulfstream Aerospace.

This technical data is controlled under the Export Administration Regulations by General License TSU. It may not be transferred to a third party without the prior written approval of the U.S. Department of Commerce.

PILOTS INFORMATION SHEET

XM WEATHER INSTALLATION

This service change installs the XM weather system. There will be no cockpit procedural changes required as a result of this installation.

PLEASE RETAIN THIS COPY WITH THE ASC BOOKLET

Aircraft Service Change prepared by Gulfstream Aerospace, Savannah International Airport, PO Box 2206, Savannah Georgia, 31402-2206, USA. © 2010, Gulfstream Aerospace. All rights reserved, including the right to reproduce this publication. No part may be reproduced, stored in any retrieval system or transmitted in any part or form or by any means electronic, photocopying, microfilm, microfiche, mechanical or otherwise, without prior written permission of Gulfstream Aerospace.

This technical data is controlled under the Export Administration Regulations by General License TSU. It may not be transferred to a third party without the prior written approval of the U.S. Department of Commerce.

The design change effected by this Aircraft Service Change (ASC) has been classified as Level 1 Major. This modification is approved and accepted by:

- The United States Federal Aviation Administration (FAA) – Project Number TG-01-2010-0001

This ASC is not approved for installation on aircraft operating under European Aviation Safety Agency (EASA) regulations at this time.

The design of this ASC is approved by aircraft type design data for installation on aircraft registered for operation in accordance with applicable regulations of the FAA.

The design of an ASC is configured to a standard ("green") production aircraft. If spare wires, pin connections or locations called out have been used for another modification, the installing agency must ensure the development, documentation and approval of any required deviations.

The following instructions, in step-by-step form, are written as a guide to perform this ASC. Compliance with safe maintenance practices, as defined in the Aircraft Maintenance Manual and FAA regulations, is required. It is the responsibility of the installing facility to read all instructions contained in this service change and refer to all associated documents, drawings and manuals for applicable actions.

Gulfstream considers this ASC a means to enhance aircraft capabilities to meet individual operator requirements. The modification is not related to any safety or airworthiness condition.

Subject:	Indicating / Recording (ATA 31) – XM Weather Installation
Purpose / Discussion:	This ASC installs the XM Weather system. XM Weather will be selectable versus the current uplinked weather offered from your datalink service provider. It will include display of NEXRAD, winds aloft and satellite picture. Additional XM features are available on your electronic flight bag (EFB) or PlaneBook via USB ports. A subscription service is required for the operation of XM Weather. Operators should contact either Global Data Center (GDC) or XM directly to arrange for services.
Description / Man-Hours Required Per Aircraft:	This service change installs an antenna, receiver, two data ports and associated wiring for the XM satellite weather system. Either a fore or an aft installation may be selected based on aircraft configuration. Approximately 110 man-hours will be required for this installation. Aircraft configuration, installation location of the system (forward or aft) and availability of spare wiring may impact labor hours, amount of access required and could necessitate additional engineering.

Description continued:	To receive compliance credit for this service change, all In-Service Evaluation (ISE) installations that occurred prior to the release of this ASC must submit to an engineering review to ensure compliance with the requirements contained in this document.
Approved Engineering Data:	The source data for this aircraft service change is: 1159ASC47060 Rev. "A" Top Drawing – Satellite Weather (XM) Install (ASC 060)
Prerequisites:	G450 ASC 908 – PlaneView Master Operating Software System Software Update (Cert Fox) Prior to, or at the time this ASC is ordered, operators will be required to supply a configuration report of the Central Maintenance Computer (CMC). The CMC report can be stored on the aircraft PC laptop then electronically submitted to Gulfstream at asc.software@gulfstream.com. Allow 3-5 days for the CMC report review and up to 21 days for the creation of a new Options Data disk.
Associated Documents:	G450 Aircraft Maintenance Manual (AMM), Chapters 20 and 31 GIVX-GER-9934 – PlaneView Software Loading, Verification and Return To Service Procedures. Includes appropriate Data Load Guide based on aircraft Cert level as an appendix. This document is located in Maintenance Applications on the aircraft laptop.
Flight Manual Revision / Supplement Required:	None
Publications Data:	Data concerning this service change will be published in a future revision of the affected manual(s). This booklet will provide technical data until the revision(s) is published.
Effectivity:	This service change is applicable to aircraft serial numbers 4001 - subsequent.
Effect on Spares:	None

Special Equipment / Tools Required:	Aircraft PC Laptop with Remote Terminal Tool version 20.2 or later. Refer to Gulfstream PlaneView Maintenance Applications disk, PN 1159LAP59000.
Skill Type Required:	Knowledge of the G450 Indicating / Recording system, electrical, mechanical and structural standard practices will be required for this installation.
Price:	Prices are subject to change without notice.
Installed Price:	*Installation labor is included in the kit price.
Kit Price only:	Domestic: $55,682.00
	International: TBD

*NOTE:	Interior access to perform this installation is not included in the kit price. Aircraft configuration, installation location of the system and availability of spare wiring may impact labor hours, amount of access required and could necessitate additional engineering.

NOTE:	This ASC is a managed program. Incorporation must be coordinated through Gulfstream Aircraft Scheduling at 800-810-GULF (4853) or 912-965-4178. If not scheduled, aircraft downtime could increase significantly. This service change may only be installed at a Gulfstream Aerospace or General Dynamics Aviation Services (GDAS) facility.

MODIFICATION INSTRUCTIONS:

CAUTION:	PROTECT WIRE BUNDLES, CONNECTORS AND SURROUNDING STRUCTURE DURING ANY MAINTENANCE PROCEDURE FROM SHAVINGS, DEBRIS AND CONTAMINATION. MAINTAIN A PROPERLY CLEANED WORK AREA THROUGHOUT THE PROCEDURE TO ENSURE THE INTEGRITY OF THE AFFECTED COMPONENT / SYSTEM. VISUALLY INSPECT WORK AREA USING ADDITIONAL LIGHT AS NECESSARY TO VERIFY ABSENCE OF ANY DEBRIS PRIOR TO COMPLETION OF PROCEDURE. FAILURE TO COMPLY MAY RESULT IN DAMAGE TO COMPONENTS AND / OR SYSTEMS.

NOTE:	When multiple ASCs containing software are complied with simultaneously, the software installations should be conducted sequentially and completely. Using the date and time stamp on the Authorization Report of the Loadable Avionics Software Configurations (Options) software, each ASC will be loaded beginning with the earliest calendar date and time, and progressing to the most current date. Following Data Load Guide procedures, install software in the order specified. Each software installation of an ASC will be complete by following the Verification and Test Procedures found on the Authorization Report. Reference 1159SB51000.

NOTE:	Prior to, or at the time this ASC is ordered, operators are required to supply a configuration report of the Central Maintenance Computer (CMC). The CMC will be reviewed for current configuration. The CMC report may be stored on the aircraft PC laptop then electronically submitted to Gulfstream Technical Operations at asc.software@gulfstream.com.

A. Prepare aircraft for safe maintenance as follows:

1. Remove all electrical power, turn all cockpit switches off and disconnect battery quick disconnects. Refer to G450 AMM, Chapter 20.

NOTE:	There are two locations available for XM antenna placement. Forward or aft installation must be selected based on aircraft configuration.

B. Modify aircraft as follows:

1. Incorporate drawings as instructed on 1159ASC47060-01 for forward antenna installations.
2. Incorporate drawings as instructed on 1159ASC47060-03 for aft antenna installations.

C. Follow on procedures:

1. Prepare aircraft for safe maintenance and application of electrical power. Refer to G450 AMM, Chapter 20.

NOTE:	Refer to the appropriate Data Load Guide for aircraft Cert level for software procedures when loading and verifying software. Data Load Guide is an appendix to GIVX-GER-9934 – PlaneView Software Loading, Verification and Return To Service Procedures located in Maintenance Applications on the aircraft laptop.

NOTE:	Options disks are security enabled. Note the security code on the disk label before loading into aircraft laptop. Enter security code when prompted.

2. Install Loadable Avionics Software Configurations (Options) software using Data Load Guide Procedures.

3. Verify software loads in accordance with Data Load Guide procedures.

NOTE:	All new software is issued with an Authorization Report. The information contained on the report will match the information on the disk including aircraft specific information. Individual return-to-service procedures for new software, as stated on the Authorization Report, must be completed.

4. Perform test procedures found on the Authorization Report.

D. Store all current software on board the aircraft. Dispose of all obsolete disks.

E. Ensure work area is clean and clear of foreign objects and debris (FOD).

F. Document the following software information on the attached service reply card and on the PlaneView Configuration Record in the aircraft permanent maintenance records:

- Top Level System Part Number
- Media Part Number
- Media Serial Number

G. Record compliance with this aircraft service change in the aircraft permanent maintenance records and return aircraft to flight status.

H. Report compliance with this aircraft service change to Gulfstream CMP via electronic transmittal or fill out and fax the attached service reply card.

<table>
<tr><td>WEIGHT AND BALANCE DATA:</td><td>The effect of this service change is appreciable with regard to aircraft basic weight and balance. It is the responsibility of the installing facility to perform weight and balance computations in accordance with the AMM and Gulfstream Aircraft Weight and Balance manual. Changes to the weight and balance shall be documented in the aircraft permanent records.
The effect of this service change with regard to aircraft basic weight and balance is as follows:
<table>
<tr><td>MOD</td><td>WEIGHT</td><td>HORIZONTAL</td><td>MOMENT</td></tr>
<tr><td>ASC 060</td><td>≈ 10.30224 lbs</td><td>224.430</td><td>2312.129</td></tr>
</table></td></tr>
</table>

ELECTRICAL LOAD ANALYSIS DATA:	This service change constitutes an appreciable change to the aircraft electrical loading. Incorporate drawing 1159SB47980 - Electrical Load Statement for XM Weather System into aircraft permanent records.

PARTS REQUIRED PER AIRCRAFT:

Item	Part Number	Nomenclature	Qty.	Notes/Alt./Substitutes
1.	1159ASC47060	Top Drawing – ASC 060	1	
2.	1159SB47980	Load Analysis	1	
3.	1159SB47981	XM FWD Antenna Installation	1	
4.	1159SB47982	Wire Routing FWD Antenna	1	
5.	1159SB47983	XM AFT Antenna Installation	1	
6.	1159SB47984	Wire Routing AFT Antenna	1	
7.	1159SB47985	Installation XM Satellite Antenna	1	
8.	GER-8233	ISE Manual Updates	1	
9.	1159ASC47060-SW	Software	1	Item 10 included
10.	1159SB51000	Options Disk	-	
11.	1159SB47985-13	Data Port Assy	2	
12.	1159SB47985-21	Doubler	1	
13.	1159SB47985-23	Contoured Doubler	1	
14.	1159SB47985-25	Doubler	2	
15.	1159SB47985-27	Antenna Gasket	1	
16.	1159SB47985-43	Nutplate holder	1	AFT Antenna only
17.	4092743-901	XM Wx Receiver	1	

18.	4092744-901	XM Wx Antenna	1	
19.	4092745-901	XM Wx Data Port	2	
20.	BTS722	Connector, TNC Bulkhead	1	FWD Antenna only
21.	CTS722	Connector, TNC Straight	1	FWD Antenna only
22.	CSR722	Connector, SMA Rt Angle	1	
23.	CSS722	Connector, SMA Straight	1	
24.	DE115339-20	Backshell	2	
25.	DC115339-23	Backshell	1	
26.	D20419	Screwlock, Male	6	
27.	GAC880A1	Circuit Breaker	1	
28.	HET-A-02C	Shield	5	
29.	M24308/2-4F	Connector	1	
30.	M24308/4-1F	Connector	1	
31.	MS20426AD3	Rivet	8	
32.	MS21075L08	Nutplate	4	
33.	MS27039-1	Screw	4	
34.	MS27039C0814	Screw	8	
35.	NAS1097AD3	Rivet	8	
36.	NAS1097AD4	Rivet	8	
37.	NAS1149F0332P	Washer	4	
38.	NAS1474A08	Nutplate	4	
39.	NAS1836-3	Insert	4	
40.	RG-142	Coax	A/R	
41.	GAC875AD222S	Cable	A/R	
42.	GAS805BB-37	Splice	A/R	
43.	GAS830AH2	Shield Sleeve	A/R	
44.	GAT511M12A	3/8" tube	A/R	FWD Antenna only
45.	GAW805AB22	Wire	A/R	

NOTE:	All software media required for this ASC will be issued as a separate package by PN 1159ASC47060-SW. All drawings and media software will be issued to the latest revision.

"June 9, 2010"

SERVICE REPLY CARD

PLEASE FAX THIS PAGE TO GULFSTREAM AEROSPACE CMP
AT 912-965-3598 OR 866-827-7642.

THE FOLLOWING AIRCRAFT SERVICE CHANGE HAS BEEN COMPLIED WITH:

ASC NUMBER	A/C	AIRCRAFT TYPE	COMPLIANCE DATE
970060		G450	

AIRCRAFT HOURS: _____

AIRCRAFT LANDINGS: _____

PREVIOUSLY COMPLIED WITH (PCW): _____ DATE: _____

NOT APPLICABLE: _____ DATE: _____

NOMENCLATURE		PART NUMBER	SERIAL NUMBER	CMP CODE
XM ANTENNA	OFF:			
	ON:			
XM RECIEVER	OFF:			
	ON:			

DISC INFORMATION

MEDIA TITLE		TOP LEVEL SYSTEM PART NUMBER	MEDIA PART NUMBER	MEDIA SERIAL NUMBER	CMP CODE
OPTIONS	OFF:				
	ON:				

SIGNATURE	TITLE / CERTIFICATE NUMBER	COMPANY

COMMENTS / SUGGESTIONS / ACTIONS TAKEN:

Aircraft Service Change prepared by Gulfstream Aerospace, Savannah International Airport, PO Box 2206, Savannah Georgia, 31402-2206, USA. © 2010, Gulfstream Aerospace. All rights reserved, including the right to reproduce this publication. No part may be reproduced, stored in any retrieval system or transmitted in any part or form or by any means electronic, photocopying, microfilm, microfiche, mechanical or otherwise, without prior written permission of Gulfstream Aerospace.

This technical data is controlled under the Export Administration Regulations by General License TSU. It may not be transferred to a third party without the prior written approval of the U.S. Department of Commerce.